

Geothermal Energy Project Brief

California Energy Commission

June 2002

Southeast Geysers Effluent Injection System (SGEIS), Phase 2

PURPOSE

Construct additional effluent pipeline and associated facilities, deliver secondarily treated wastewater for injection, and recover steam for additional power generation at The Geysers geothermal steamfield.

FUNDING AND OWNERSHIP

The California Energy Commission provided partial funding for construction of Phase 2 of the 21-mile SGEIS in the form of a grant. Lake County owns the pipeline and associated facilities.

CEC Grant to Lake County \$ 1,000,000

Governor's Office
General Fund Grant \$ 4,500,000

Match Funds \$ 21,500,000

TOTAL \$27,000,000

GEOTHERMAL RESOURCE AND SYSTEM DESIGN

Phase 1 of the SGEIS began in 1994 and was completed in late 1997. The 32-mile effluent pipeline project supplies secondary treated wastewater to southeast corner of The Geysers

steam field. The treated effluent is pumped to support recharge of the depleting steam field in the Geysers and to improve the steam quality.

Phase 1 of the project currently injects up to 5400 gallons per minute (GPM) of treated effluent into the steam field and has resulted in a power output increase of approximately 70 MW.

Phase 2 of the project, which began in 1997, extends the Phase 1 pipeline from the Lakeport Northwest Regional Treatment Plant to the Clearlake Southeast Regional Treatment Plant. This increases the volume of secondarily treated effluent that can be injected to 6200 GPM, a 15% increase above Phase 1.

Pipeline construction is scheduled for completion by late 2002. Lake County, in cooperation with Northern California Power Agency and Calpine Corporation, will monitor the increases in electricity generation, non-condensable gas production of power plants within the general hydrologic area that could be affected by water reinjection, and area microseismicity.

ELECTRICITY PRODUCTION

Phase 2 of the SGEIS is estimated to increase power output by approximately 10 to 20 MW. Both Phase 1 and Phase 2 projects address the serious decline of The Geysers geothermal reservoir that supports power production.



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For more information on this project,
contact:

Steve Broadnansky
Lake County Special District Administrator
(707) 263-0119

Elaine Sison-Lebrilla
California Energy Commission
1516 9th Street, MS-43
Sacramento, CA 95814
(916) 653-0363

Gray Davis, Governor
Mary D. Nichols, Secretary for Resources

CALIFORNIA ENERGY COMMISSION

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